APPARATUS AND METHOD FOR RECONSTRUCTION OF VOLUMETRIC IMAGES IN A DIVERGENT SCANNING COMPUTED TOMOGRAPHY SYSTEM

ABSTRACT OF THE DISCLOSURE

An apparatus and method for reconstructing image data for a region are described. A radiation source and multiple one-dimensional linear or two-dimensional planar area detector arrays located on opposed sides of a region angled generally along a circle centered at the radiation source are used to generate scan data for the region from a plurality of diverging radiation beams, i.e., a fan beam or cone beam. Individual pixels on the discreet detector arrays from the scan data for the region are reprojected onto a new single virtual detector array along a continuous equiangular arc or cylinder or equilinear line or plane prior to filtering and backprojecting to reconstruct the image data.